

## 5.2 FERC STAFF'S RECOMMENDED MITIGATION

If the Commission authorizes the Project, we are recommending that the following measures be included as specific conditions in the Commission's Order. These measures would further mitigate the environmental impacts associated with the construction and operation of the proposed Project. The section number in parentheses at the end of a condition corresponds to the section number in which the measure and related resource impact analysis appears in the EIS.

1. Jordan Cove and Pacific Connector shall follow the construction procedures and mitigation measures described in its applications and supplemental filings (including responses to staff data requests), and as identified in the EIS, unless modified by the Order. Jordan Cove and Pacific Connector must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of OEP **before using that modification.**
2. For the LNG terminal, the Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of life, health, property, and the environment during construction and operation of the Jordan Cove LNG Project. This authority shall include:
  - a. the modification of conditions of the Order;
  - b. stop-work authority and authority to cease operation; and
  - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.
3. For the pipeline facilities, the Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Pacific Connector Pipeline Project. This authority shall allow:
  - a. the modification of conditions of the Order;
  - b. stop-work authority; and
  - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation activities.

4. **Prior to any construction**, Jordan Cove and Pacific Connector shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed site plans and alignment sheets, and shall include the route variations identified in conditions 16-19 below. **As soon as they are available, and before the start of construction**, Jordan Cove and Pacific Connector shall file with the Secretary any revised detailed site plan drawings and survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these site plan drawings.

For the pipeline, Pacific Connector's exercise of eminent domain authority granted under NGA Section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Pacific Connector's right of eminent domain granted under NGA Section 7(h) does not authorize it to increase the size of its natural gas pipeline or facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. Jordan Cove and Pacific Connector shall file with the Secretary detailed site plan drawings, alignment maps/sheets, or aerial photographs at a scale not smaller than 1:6,000, identifying all route realignments, facility relocations, changes in site plan layout, staging areas, pipe storage yards, new access roads and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

This requirement does not apply to route variations required by the Order, extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and

- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
7. **Within 60 days of the acceptance of the Authorization/Certificate and before construction begins**, Jordan Cove and Pacific Connector shall each file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Jordan Cove and Pacific Connector must file revisions to the plan as schedules change. The plan shall identify:
- a. how Jordan Cove and Pacific Connector will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;
  - b. how Jordan Cove and Pacific Connector will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
  - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
  - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
  - e. the location and dates of the environmental compliance training and instructions Jordan Cove and Pacific Connector will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
  - f. the company personnel (if known) and specific portion of Jordan Cove's and Pacific Connector's organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) Jordan Cove and Pacific Connector will follow if noncompliance occurs; and
  - h. for each discrete facility, a Gantt or PERT chart (or similar Project scheduling diagram), and dates for:
    - 1. the completion of all required surveys and reports;
    - 2. the environmental compliance training of onsite personnel;
    - 3. the start of construction; and
    - 4. the start and completion of restoration.
8. Jordan Cove shall employ at least one EI for the LNG terminal and Pacific Connector shall employ a team of EIs for the pipeline facilities (i.e., at least one per construction spread or as may be established by the Director of OEP). The EIs shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or authorizing documents;

- b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 7 above) and any other authorizing document;
  - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
  - d. a full-time position separate from all other activity inspectors;
  - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
  - f. responsible for maintaining status reports.
9. Beginning with the filing of its Implementation Plan, Jordan Cove shall file updated status reports with the Secretary on a **monthly** basis for the LNG terminal and Pacific Connector shall file updated status reports with the Secretary on a **biweekly** basis for the pipeline facilities until all construction and restoration activities are complete. Problems of a significant magnitude shall be reported to the FERC **within 24 hours**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
- a. an update on Jordan Cove's and Pacific Connector's efforts to obtain the necessary federal authorizations;
  - b. Project schedule, including current construction status of the LNG terminal/each pipeline spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
  - c. a listing of all problems encountered, contractor nonconformance/deficiency logs, and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective and remedial actions implemented in response to all instances of noncompliance, nonconformance, or deficiency;
  - e. the effectiveness of all corrective and remedial actions implemented;
  - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the order, and the measures taken to satisfy their concerns; and
  - g. copies of any correspondence received by Jordan Cove and Pacific Connector from other federal, state, or local permitting agencies concerning instances of noncompliance, and Jordan Cove's and Pacific Connector's response.
10. Pacific Connector shall develop and implement an environmental complaint resolution procedure, and file such procedure with the Secretary, for review and approval by the Director of OEP. The procedure shall provide landowners with clear and simple

directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the right-of-way. This procedure shall be in effect throughout the construction and restoration periods and two years thereafter. Prior to construction, Pacific Connector shall mail the complaint procedures to each landowner whose property will be crossed by the Project.

- a. In its letter to affected landowners, Pacific Connector shall:
    1. provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;
    2. instruct the landowners that if they are not satisfied with the response, they should call Pacific Connector's Hotline; the letter should indicate how soon to expect a response; and
    3. instruct the landowners that if they are still not satisfied with the response from Pacific Connector's Hotline, they should contact the Commission's Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.
  - b. In addition, Pacific Connector shall include in its status report a copy of a table that contains the following information for each problem/concern:
    1. the identity of the caller and date of the call;
    2. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;
    3. a description of the problem/concern; and
    4. an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
11. Jordan Cove and Pacific Connector must receive written authorization from the Director of OEP before commencing construction of any Project facilities. To obtain such authorization, Jordan Cove and Pacific Connector must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
  12. Jordan Cove must receive written authorization from the Director of OEP **prior to introducing hazardous fluids into the Project facilities**. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.
  13. Jordan Cove must receive written authorization from the Director of OEP **before placing into service** the LNG terminal and other components of the Jordan Cove LNG Project. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with the FERC approval, can be expected to operate safely as designed, and the rehabilitation and restoration of the areas affected by the Project are proceeding satisfactorily.
  14. Pacific Connector must receive written authorization from the Director of OEP **before placing the pipeline into service**. Such authorization will only be granted following a

determination that rehabilitation and restoration of the right-of-way and other areas affected by the Pacific Connector Gas Pipeline Project are proceeding satisfactorily.

15. **Within 30 days of placing the authorized facilities in service**, Jordan Cove and Pacific Connector shall each file an affirmative statement with the Secretary, certified by a senior company official:
  - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
  - b. identifying which of the conditions of the Order Jordan Cove and Pacific Connector have complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
16. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that incorporate the Blue Ridge Variation into its proposed route between MP 11 and 25. (*section 3.4.2.2*)
17. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that incorporate the Survey and Manage Species Variation into the proposed route between MPs 111.5 and 111.6, and provide documentation of consultation with the Forest Service. (*section 3.4.2.7*)
18. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that incorporate the East Fork Cow Creek Variation into its proposed route between MPs 109.6 and 109.9, and provide documentation of consultation with the Forest Service. (*section 3.4.2.8*)
19. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that incorporate the Pacific Crest Trail Variation into the proposed route between MPs 166.4 and 168.1, and provide documentation of consultation with the Forest Service. (*section 3.4.2.9*)
20. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, the final monitoring protocols and/or mitigation measures for all landslide areas that were not accessible during previous studies. (*section 4.1.2.4*)
21. **Prior to the end of the draft EIS comment period**, Pacific Connector shall consult with the ODEQ regarding existing soil and groundwater contamination at the sites listed in appendix G, and file the results of this consultation, along with any proposed site-specific soil or groundwater handling, management, and disposal procedures. (*section 4.2.2.2*)
22. **Prior to construction**, Pacific Connector shall file a revised *Integrated Pest Management Plan* with the Secretary, for review and written approval by the Director of

the OEP, that specifies that construction equipment will be cleaned after leaving areas of noxious weed infestations and prior to entering BLM-managed lands regardless of contiguous land owner. The revised plan shall also address BLM and Forest Service requirements related to monitoring of invasive plant species on federally managed lands, and documentation that the revised plan was found acceptable by the BLM and Forest Service. (*section 4.4.3.4*)

23. **Prior to construction**, Jordan Cove shall file with the Secretary, for review and written approval by the Director of OEP, its lighting plan. The plan shall include measures that will reduce lighting to the minimal levels necessary to ensure safe operation of the LNG facilities and any other measures that will be implemented to minimize lighting impacts on fish and wildlife. Along with its lighting plan, Jordan Cove shall file documentation that the plan was developed in consultation with the FWS, NMFS, and ODFW. This lighting plan shall also be in compliance with recommendation 59. (*section 4.5.1.1*)
24. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, its final *Fish Salvage Plan*, that addresses methods suitable to collect and salvage all lamprey life stages, to the extent practical, together with documentation that the final *Fish Salvage Plan* was developed in consultations with interested tribes, ODFW, FWS and NMFS. The revised *Fish Salvage Plan* shall also incorporate the applicable measures of the Handling Guidelines for Klamath Basin Suckers. (*section 4.5.2.3*)
25. **Prior to construction**, Pacific Connector shall file with the Secretary, for review and written approval by the Director of OEP, a revised *Hydrostatic Test Plan* that requires that any water withdrawal from a flowing stream does not exceed an instantaneous flow reduction of more than 10 percent of stream flow. (*section 4.5.2.3*)
26. **Prior to construction**, Jordan Cove shall file with the Secretary, for review and written approval by the Director of OEP, a *Marine Mammal Monitoring Plan* that identifies how the presence of listed whales will be determined during construction, and measures Jordan Cove will take to minimize potential noise effects on whales and other marine mammals, and ensure compliance with NMFS underwater noise criteria for the protection of listed whales. (*section 4.6.1.1*)
27. **Prior to construction**, Pacific Connector shall file with the Secretary its commitment to adhere to FWS-recommended timing restrictions within threshold distances of MAMU and NSO stands **during construction, operations, and maintenance** of the pipeline facilities. (*section 4.6.1.2*)
28. **Prior to end of the draft EIS comment period**, Pacific Connector shall file with the Secretary revised alignment sheets that eliminate or relocate TEWA 128.01-W, TEWA 128.96-N, TEWA 142.07-N, and EAR-128.05. (*section 4.6.1.6*)
29. Jordan Cove and Pacific Connector **shall not begin construction until**:
  - a. the Commission staff completes formal ESA consultations with the NMFS and FWS; and

- b. Jordan Cove and Pacific Connector have received written notification from the Director of OEP that construction and/or implementation of conservation measures may begin. (*section 4.6.1.7*)
30. Jordan Cove and Pacific Connector **shall not begin construction** of the Project **until** they file with the Secretary a copy of the determination of consistency with the Coastal Zone Management Plan issued by the State of Oregon. (*section 4.7.1.2*)
31. **Prior to construction**, Jordan Cove shall file documentation that it has entered into development agreements with ODOT, Coos County, and the City of North Bend, as recommended in the *Traffic Impact Analysis* report. (*section 4.10.1.2*)
32. **Prior to construction of facilities and/or use of any staging, storage, temporary work areas, or new or to-be-improved access roads**, Jordan Cove and Pacific Connector shall file with the Secretary a revised Ethnographic Report describing sites of religious and cultural significance to Indian Tribes and other tribal information as outlined in the FERC staff's October 23, 2018 environmental information request #14, for the review of interested Indian tribes and the FERC staff, and for written approval by the Director of OEP. (*section 4.11.3.1*)
33. Jordan Cove and Pacific Connector shall **not begin construction of facilities and/or use** any staging, storage, or temporary work areas and new or to-be-improved access roads **until**:
- a. Jordan Cove and Pacific Connector each file with the Secretary:
    1. remaining cultural resources inventory reports for areas not previously surveyed;
    2. site evaluations and monitoring reports, as necessary;
    3. final HPMP with avoidance plans;
    4. final UDP; and
    5. comments on the cultural resources reports and plans from the SHPO, applicable federal land managing agencies, and interested Indian tribes.
  - b. FERC affords the ACHP an opportunity to comment on the undertaking; and
  - c. FERC staff reviews and the Director of OEP approves all cultural resources reports and plans, and notifies Jordan Cove and Pacific Connector in writing that treatment plans may be implemented and/or construction may proceed.
- All materials filed with the Commission containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "**CUI//PRIV - DO NOT RELEASE.**" (*section 4.11.5*)
34. **Following the start of pile-driving activities**, Jordan Cove shall monitor daytime pile-driving and file **weekly** noise data reports with the Secretary that identify the noise impact on the nearest NSAs. If any measured daytime noise impacts ( $L_{max}$ ) at the nearest NSAs are greater than 10 dBA over the  $L_{eq}$  ambient levels, Jordan Cove shall:



- a. cease pile-driving activities and implement noise mitigation measures; and
  - b. file with the Secretary evidence of noise mitigation installation and request written notification from the Director of OEP that pile driving may resume. (section 4.12.2.3)
35. Jordan Cove shall conduct all pile-driving activities between the hours of 7 a.m. and 7 p.m. **throughout the duration of construction.** (section 4.12.2.3)
36. Jordan Cove shall file a full power load noise survey with the Secretary for the LNG terminal **no later than 60 days after** each liquefaction train is placed into service. If the noise attributable to operation of the equipment at the LNG terminal exceeds an  $L_{dn}$  of 55 dBA at the nearest NSA, **within 60 days** Jordan Cove shall modify operation of the liquefaction facilities or install additional noise controls until a noise level below an  $L_{dn}$  of 55 dBA at the NSA is achieved. Jordan Cove shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (section 4.12.2.3)
37. Jordan Cove shall file a full power load noise survey with the Secretary **no later than 60 days after placing the entire LNG terminal into service.** If a full load noise survey is not possible, Jordan Cove shall file an interim survey at the maximum possible horsepower load **within 60 days** of placing the LNG terminal into service and file the full operational surveys **within 6 months.** If the noise attributable to the operation of all the equipment of the LNG terminal exceeds 55 dBA  $L_{dn}$  at any nearby NSAs, under interim or full load conditions, Jordan Cove shall file a report on what changes are needed and install additional noise controls to meet the level **within 1 year** of the in-service date. Jordan Cove shall confirm compliance with this requirement by filing a second full power noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (section 4.12.2.3)
38. **Prior to drilling activities at HDD sites,** Pacific Connector shall file a site-specific noise mitigation plan with the Secretary, for review and written approval by the Director of OEP. During any drilling operations, Pacific Connector shall implement the approved plan, monitor noise levels, and file in its biweekly reports documentation that the noise levels attributable to the drilling operations at NSAs does not exceed 55  $L_{dn}$  dBA. (section 4.12.2.4)
39. Pacific Connector shall file a noise survey with the Secretary **no later than 60 days after placing the Klamath Compressor Station in service.** If a full load condition noise survey is not possible, Pacific Connector shall provide an interim survey at the maximum possible horsepower load and provide the full load survey **within six months.** If the noise attributable to the operation of all of the equipment at the Klamath Compressor Station under interim or full horsepower load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSAs, Pacific Connector shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within one year** of the in-service date. Pacific Connector shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (section 4.12.2.4)

40. **Prior to end of the draft EIS comment period**, Jordan Cove shall file with the Secretary documentation of consultation with USDOT PHMSA staff as to whether the design wind speed for other non-hazardous buildings and structures would be subject USDOT PHMSA requirements. (*section 4.13.1.6*)
41. **Prior to the end draft EIS comment period**, Jordan Cove shall file with the Secretary an analysis that demonstrates the flammable vapor dispersion from design spills would be prevented from dispersing underneath the elevated LNG storage tanks, or the LNG storage tanks would be able to withstand an overpressure due to ignition of the flammable vapor dispersion cloud that disperses underneath the elevated LNG storage tanks. (*section 4.13.1.6*)
42. **Prior to initial site preparation**, Jordan Cove shall file with the Secretary documentation demonstrating it has received a determination of no hazard (with or without conditions) by USDOT FAA for all permanent structures, temporary construction equipment, and mobile objects that exceed the height requirements in 14 CFR 77.9. (*section 4.13.1.6*)
43. **Prior to construction of final design**, Jordan Cove shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in Oregon:
- site preparation drawings and specifications;
  - LNG terminal structures, LNG storage tank, and foundation design drawings and calculations (including prefabricated and field constructed structures);
  - seismic specifications for procured Seismic Category I equipment prior to the issuing of request for quotations;
  - quality control procedures to be used for civil/structural design and construction; and
  - a determination of whether soil improvement is necessary to counteract soil liquefaction.
- In addition, Jordan Cove shall file, in its Implementation Plan, the schedule for producing this information. (*section 4.13.1.6*)
44. **Prior to construction of final design**, Jordan Cove shall file with the Secretary consultation with USDOT PHMSA staff as to whether the use of normally closed valves to remove stormwater from curbed areas would meet USDOT PHMSA requirements. (*section 4.13.1.6*)
45. **Prior to commencement of service**, Jordan Cove shall file with the Secretary a monitoring and maintenance plan, stamped and sealed by the professional engineer-of-record registered in Oregon, which ensures the facilities are protected for the life of the LNG terminal considering settlement, subsidence, and sea level rise. (*section 4.13.1.6*)

**Conditions 46 through 133 shall apply to the Jordan Cove LNG terminal. Information pertaining to these specific conditions shall be filed with the Secretary for review and written approval by the Director of OEP either: prior to initial site preparation; prior to**

**construction of final design; prior to commissioning; prior to introduction of hazardous fluids; or prior to commencement of service**, as indicated by each specific condition. Specific engineering, vulnerability, or detailed design information meeting the criteria specified in Order No. 683 (Docket No. RM06-24-000), including security information, shall be submitted as critical energy infrastructure information (CEII) pursuant to 18 CFR 388.112. See Critical Energy Infrastructure Information, Order No. 683, 71 Fed. Reg. 58,273 (October 3, 2006), FERC Stats. & Regs. ¶ 31,228 (2006). Information pertaining to items such as offsite emergency response; procedures for public notification and evacuation; and construction and operating reporting requirements will be subject to public disclosure. All information shall be filed **a minimum of 30 days** before approval to proceed is required.

46. **Prior to initial site preparation**, Jordan Cove shall file an overall Project schedule, which includes the proposed stages of the commissioning plan. (*section 4.13.1.6*)
47. **Prior to initial site preparation**, Jordan Cove shall file procedures for controlling access during construction. (*section 4.13.1.6*)
48. **Prior to initial site preparation**, Jordan Cove shall file quality assurance and quality control procedures for construction activities for both the Engineering Procurement Contractor and Jordan Cove to monitor construction activities. (*section 4.13.1.6*)
49. **Prior to initial site preparation**, Jordan Cove shall specify a spill containment system around the Warm Flare Knockout Drum. (*section 4.13.1.6*)
50. **Prior to initial site preparation**, Jordan Cove shall develop an ERP (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan shall include at a minimum:
  - a. designated contacts with state and local emergency response agencies;
  - b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
  - c. procedures for notifying residents and recreational users within areas of potential hazard;
  - d. evacuation routes/methods for residents and public use areas that are within any transient hazard areas along the route of the LNG marine transit;
  - e. locations of permanent sirens and other warning devices; and
  - f. an “emergency coordinator” on each LNG marine vessel to activate sirens and other warning devices.

Jordan Cove shall notify the FERC staff of all planning meetings in advance and shall report progress on the development of its ERP **at 3-month intervals**. (*section 4.13.1.6*)

51. **Prior to initial site preparation**, Jordan Cove shall file a Cost-Sharing Plan identifying the mechanisms for funding all Project-specific security/emergency management costs

that would be imposed on state and local agencies. This comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. Jordan Cove shall notify FERC staff of all planning meetings in advance and shall report progress on the development of its Cost Sharing Plan at **3-month intervals**. (*section 4.13.1.6*)

52. **Prior to construction of final design**, Jordan Cove shall file change logs that list and explain any changes made from the FEED provided in Jordan Cove LNG Project's application and filings. A list of all changes with an explanation for the design alteration shall be provided and all changes shall be clearly indicated on all diagrams and drawings. (*section 4.13.1.6*)
53. **Prior to construction of final design**, Jordan Cove shall file information/revisions pertaining to Jordan Cove's response numbers 8c, 13, 15, 21, 22, 23, 24, 26, 27, 28, and 31 of its December 20, 2018 filing and 6, 9, 10, 11, 17, 19, 32, 34, and 36 of its February 6, 2019 filing which indicated features to be included or considered in the final design. (*section 4.13.1.6*)
54. **Prior to construction of final design**, Jordan Cove shall file drawings and specifications for crash rated vehicle barriers at each facility entrance for access control. (*section 4.13.1.6*)
55. **Prior to construction of final design**, Jordan Cove shall file drawings of the security fence. The fencing drawings shall provide details of fencing that demonstrates it would restrict and deter access around the entire facility and has a setback from exterior features (e.g., power lines, trees, etc.) and from interior features (e.g., piping, equipment, buildings, etc.) that does not allow the fence to be overcome. (*section 4.13.1.6*)
56. **Prior to construction of final design**, Jordan Cove shall file drawings of internal road vehicle protections, such as guard rails, barriers, and bollards to protect transfer piping, pumps, compressors, hydrants, monitors, etc. to ensure that they are located away from roadway or protected from inadvertent damage from vehicles. (*section 4.13.1.6*)
57. **Prior to construction of final design**, Jordan Cove shall file security camera and intrusion detection drawings. The security camera drawings shall show the locations, areas covered, and features of each camera (e.g., fixed, tilt/pan/zoom, motion detection alerts, low light, mounting height, etc.) to verify camera coverage of the entire perimeter with redundancies for cameras interior to the facility to enable rapid monitoring of the facility, including a camera at the top of each LNG storage tank, and coverage within pretreatment areas, within liquefaction areas, within truck transfer areas, within marine transfer areas, and buildings. The drawings shall show or note the location of the intrusion detection to verify it covers the entire perimeter of the facility. (*section 4.13.1.6*)
58. **Prior to construction of final design**, Jordan Cove shall file lighting drawings. The lighting drawings shall show the location, elevation, type of light fixture, and lux levels of the lighting system and shall be in accordance with API 540 and provide illumination along the perimeter of the facility, process equipment, mooring points, and along

- paths/roads of access and egress to facilitate security monitoring and emergency response operations. (*section 4.13.1.6*)
59. **Prior to construction of final design**, Jordan Cove shall file a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems. This lighting plan shall also be in compliance with recommendation 23. (*section 4.13.1.6*)
60. **Prior to construction of final design**, Jordan Cove shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion. (*section 4.13.1.6*)
61. **Prior to construction of final design**, Jordan Cove shall file up-to-date process flow diagrams (PFDs) and piping and instrument diagrams (P&IDs) including vendor P&IDs. The PFDs shall include heat and material balances. The P&IDs shall include the following information:
- a. equipment tag number, name, size, duty, capacity, and design conditions;
  - b. equipment insulation type and thickness;
  - c. storage tank pipe penetration size and nozzle schedule;
  - d. valve high pressure side and internal and external vent locations;
  - e. piping with line number, piping class specification, size, and insulation type and thickness;
  - f. piping specification breaks and insulation limits;
  - g. all control and manual valves numbered;
  - h. relief valves with size and set points; and
  - i. drawing revision number and date. (*section 4.13.1.6*)
62. **Prior to construction of final design**, Jordan Cove shall file P&IDs, specifications, and procedures that clearly show and specify the tie-in details required to safely connect subsequently constructed facilities with the operational facilities. (*section 4.13.1.6*)
63. **Prior to construction of final design**, Jordan Cove shall file a car seal philosophy and a list of all car-sealed and locked valves consistent with the P&IDs. (*section 4.13.1.6*)
64. **Prior to construction of final design**, Jordan Cove shall file information to demonstrate the EPC contractor has verified that all FEED HAZOP and LOPA recommendations have been addressed. (*section 4.13.1.6*)
65. **Prior to construction of final design**, Jordan Cove shall file a hazard and operability review prior to issuing the P&IDs for construction. A copy of the review, a list of the recommendations, and actions taken on the recommendations shall be filed. (*section 4.13.1.6*)

66. **Prior to construction of final design**, Jordan Cove shall provide a check valve upstream of the amine contractor column to prevent backflow or provide a dynamic simulation that shows that upon plant shutdown, the swan neck would be sufficient for this purpose. *(section 4.13.1.6)*
67. **Prior to construction of final design**, Jordan Cove shall specify how Mole Sieve Gas Dehydrator support and sieve material would be prevented from migrating to the piping system. *(section 4.13.1.6)*
68. **Prior to construction of final design**, Jordan Cove shall specify how the regeneration gas heater tube design temperature would be consistent with the higher shell side steam temperatures. *(section 4.13.1.6)*
69. **Prior to construction of final design**, Jordan Cove shall specify a cold gas bypass around the defrost gas heater to prevent defrost gas heater high temperature shutdown during low flow and startup conditions. *(section 4.13.1.6)*
70. **Prior to construction of final design**, Jordan Cove shall demonstrate that the differential pressure (dp) level transmitters on the LNG flash drum would not result in an excess number of false high-high-high level shutdowns. *(section 4.13.1.6)*
71. **Prior to construction of final design**, Jordan Cove shall specify a means to stop LNG flows to the BOG suction drum when the BOG compressor is shutdown to prevent filling the BOG suction drum with LNG. *(section 4.13.1.6)*
72. **Prior to construction of final design**, Jordan Cove shall specify a low instrument air pressure shutdown to prevent loss of control to air operated valves. *(section 4.13.1.6)*
73. **Prior to construction of final design**, Jordan Cove shall evaluate and, if applicable, address the potential for cryogenic feed gas back flow in the event relief valve 30-PSV-01002A/B is open. *(section 4.13.1.6)*
74. **Prior to construction of final design**, Jordan Cove shall include LNG tank fill flow measurement with high flow alarm. *(section 4.13.1.6)*
75. **Prior to construction of final design**, Jordan Cove shall specify a discretionary vent valve on each LNG storage tank that is operable through the Distributed Control System (DCS). In addition, a car sealed open manual block valve shall be provided upstream of the discretionary vent valve. *(section 4.13.1.6)*
76. **Prior to construction of final design**, Jordan Cove shall file the safe operating limits (upper and lower), alarm and shutdown set points for all instrumentation (e.g., temperature, pressures, flows, and compositions). *(section 4.13.1.6)*
77. **Prior to construction of final design**, Jordan Cove shall file cause-and-effect matrices for the process instrumentation, fire and gas detection system, and emergency shutdown system. The cause-and-effect matrices shall include alarms and shutdown functions, details of the voting and shutdown logic, and set points. *(section 4.13.1.6)*

78. **Prior to construction of final design**, Jordan Cove shall file an up-to-date equipment list, process and mechanical data sheets, and specifications. The specifications shall include:
- a. building specifications (e.g., control buildings, electrical buildings, compressor buildings, storage buildings, pressurized buildings, ventilated buildings, blast resistant buildings);
  - b. mechanical specifications (e.g., piping, valve, insulation, rotating equipment, heat exchanger, storage tank and vessel, other specialized equipment);
  - c. electrical and instrumentation specifications (e.g., power system, control system, safety instrument system [SIS], cable specifications, other electrical and instrumentation); and
  - d. security and fire safety specifications (e.g., security, passive protection, hazard detection, hazard control, firewater). (*section 4.13.1.6*)
79. **Prior to construction of final design**, Jordan Cove shall file a list of all codes and standards and the final specification document number where they are referenced. (*section 4.13.1.6*)
80. **Prior to construction of final design**, Jordan Cove shall file complete specifications and drawings of the proposed LNG tank design and installation. (*section 4.13.1.6*)
81. **Prior to construction of final design**, Jordan Cove shall file an evaluation of emergency shutdown valve closure times. The evaluation shall account for the time to detect an upset or hazardous condition, notify plant personnel, and close the emergency shutdown valve(s). (*section 4.13.1.6*)
82. **Prior to construction of final design**, Jordan Cove shall file an evaluation of dynamic pressure surge effects from valve opening and closure times and pump startup and shutdown operations. (*section 4.13.1.6*)
83. **Prior to construction of final design**, Jordan Cove shall demonstrate that, for hazardous fluids, piping and piping nipples 2 inches or less in diameter are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators. (*section 4.13.1.6*)
84. **Prior to construction of final design**, Jordan Cove shall clearly specify the responsibilities of the LNG tank contractor and the EPC contractor for the piping associated with the LNG storage tank. (*section 4.13.1.6*)
85. **Prior to construction of final design**, Jordan Cove shall file the sizing basis and capacity for the final design of the flares and/or vent stacks as well as the pressure and vacuum relief valves for major process equipment, vessels, and storage tanks. (*section 4.13.1.6*)
86. **Prior to construction of final design**, Jordan Cove shall file an updated fire protection evaluation of the proposed facilities. A copy of the evaluation, a list of recommendations and supporting justifications, and actions taken on the recommendations shall be filed. The evaluation shall justify the type, quantity, and location of hazard detection and

hazard control, passive fire protection, emergency shutdown and depressurizing systems, firewater, and emergency response equipment, training, and qualifications in accordance with NFPA 59A (2001). The justification for the flammable and combustible gas detection and flame and heat detection systems shall be in accordance with ISA 84.00.07 or equivalent methodologies and would need to demonstrate 90 percent or more of releases (unignited and ignited) that could result in an off-site or cascading impact would be detected by two or more detectors and result in isolation and de inventory within 10 minutes. The analysis shall take into account the set points, voting logic, wind speeds, and wind directions. The justification for firewater shall provide calculations for all firewater demands based on design densities, surface area, and throw distance as well as specifications for the corresponding hydrant and monitors needed to reach and cool equipment. (*section 4.13.1.6*)

87. **Prior to construction of final design**, Jordan Cove shall file spill containment system drawings with dimensions and slopes of curbing, trenches, impoundments, and capacity calculations considering any foundations and equipment within impoundments, as well as the sizing and design of the down-comers. The spill containment drawings shall show containment for all hazardous fluids including all liquids handled above their flashpoint, from the largest flow from a single line for 10 minutes, including de-inventory, or the maximum liquid from the largest vessel (or total of impounded vessels) or otherwise demonstrate that providing spill containment would not significantly reduce the flammable vapor dispersion or radiant heat consequences of a spill. (*section 4.13.1.6*)
88. **Prior to construction of final design**, Jordan Cove shall file electrical area classification drawings. (*section 4.13.1.6*)
89. **Prior to construction of final design**, Jordan Cove shall provide documentation demonstrating adequate ventilation, detection, and electrical area classification based on the final selection of the batteries, and associated hydrogen off-gassing rates. (*section 4.13.1.6*)
90. **Prior to construction of final design**, Jordan Cove shall file drawings and details of how process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system meet the requirements of NFPA 59A (2001). (*section 4.13.1.6*)
91. **Prior to construction of final design**, Jordan Cove shall file details of an air gap or vent installed downstream of process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that shall continuously monitor for the presence of a flammable fluid, alarm the hazardous condition, and shut down the appropriate systems. (*section 4.13.1.6*)
92. **Prior to construction of final design**, Jordan Cove shall file complete drawings and a list of the hazard detection equipment. The drawings shall clearly show the location and elevation of all detection equipment. The list shall include the instrument tag number, type and location, alarm indication locations, and shutdown functions of the hazard detection equipment. (*section 4.13.1.6*)



93. **Prior to construction of final design**, Jordan Cove shall file a technical review of facility design that:
  - a. identifies all combustion/ventilation air intake equipment and the distances to any possible flammable gas or toxic release; and
  - b. demonstrates that these areas are adequately covered by hazard detection devices and indicates how these devices would isolate or shutdown any combustion or heating ventilation and air conditioning equipment whose continued operation could add to or sustain an emergency. (*section 4.13.1.6*)
94. **Prior to construction of final design**, Jordan Cove shall file a design that includes hazard detection suitable to detect high temperatures and smoldering combustion products in electrical buildings and control room buildings. (*section 4.13.1.6*)
95. **Prior to construction of final design**, Jordan Cove shall file an evaluation of the voting logic and voting degradation for hazard detectors. (*section 4.13.1.6*)
96. **Prior to construction of final design**, Jordan Cove shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of the hazard detectors when determining the lower flammable limit set points for methane, ethylene, propane, isopentane, and condensate. (*section 4.13.1.6*)
97. **Prior to construction of final design**, Jordan Cove shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of hazard detectors when determining the set points for toxic components such as condensate and hydrogen sulfide. (*section 4.13.1.6*)
98. **Prior to construction of final design**, Jordan Cove shall file a drawing showing the location of the emergency shutdown buttons. Emergency shutdown buttons shall be easily accessible, conspicuously labeled, and located in an area which would be accessible during an emergency. (*section 4.13.1.6*)
99. **Prior to construction of final design**, Jordan Cove shall file facility plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Plan drawings shall clearly show the location by tag number of all fixed, wheeled, and hand-held extinguishers and shall demonstrate the spacing of extinguishers meet prescribed NFPA 10 travel distances. The list shall include the equipment tag number, type, capacity, equipment covered, discharge rate, and automatic and manual remote signals initiating discharge of the units and shall demonstrate they meet NFPA 59A. (*section 4.13.1.6*)
100. **Prior to construction of final design**, Jordan Cove shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from cryogenic releases. (*section 4.13.1.6*)
101. **Prior to construction of final design**, Jordan Cove shall file calculations or test results for the structural passive protection systems to protect equipment and supports from cryogenic releases. (*section 4.13.1.6*)

102. **Prior to construction of final design**, Jordan Cove shall file drawings and calculations that demonstrate passive protection is provided in areas where jet fires may result in failure of structural supports. (*section 4.13.1.6*)
103. **Prior to construction of final design**, Jordan Cove shall file a detailed quantitative analysis to demonstrate that adequate thermal mitigation would be provided for each significant component within the 4,000 Btu/ft<sup>2</sup>-hr zone from an impoundment, or provide an analysis that assesses the consequence of pressure vessel bursts and boiling liquid expanding vapor explosions. Trucks at the truck transfer station shall be included in the analysis. A combination of passive and active protection shall be provided and demonstrate the effectiveness and reliability. Effectiveness of passive mitigation shall be supported by calculations for the thickness limiting temperature rise and effectiveness of active mitigation shall be justified with calculations demonstrating flow rates and durations of any cooling water would mitigate the heat absorbed by the vessel. (*section 4.13.1.6*)
104. **Prior to construction of final design**, Jordan Cove shall file an evaluation and associated specifications and drawings of how they would prevent cascading damage of transformers (e.g., fire walls or spacing) in accordance with NFPA 850 or equivalent. (*section 4.13.1.6*)
105. **Prior to construction of final design**, Jordan Cove shall file facility plan drawings showing the proposed location of the firewater and any foam systems. Plan drawings shall clearly show the location of firewater and foam piping, post indicator valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge system, foam system, water-mist system, and sprinkler. All areas of the pretreatment area shall have adequate coverage. The drawings shall also include piping and instrumentation diagrams of the firewater and foam systems. (*section 4.13.1.6*)
106. **Prior to construction of final design**, Jordan Cove shall specify that the firewater pump shelter is designed to allow removal of the largest firewater pump or other component for maintenance with an overhead or external crane. (*section 4.13.1.6*)
107. **Prior to construction of final design**, Jordan Cove shall demonstrate that the firewater storage tanks are in compliance with NFPA 22 or demonstrate how API Standard 650 provides an equivalent or better level of safety. (*section 4.13.1.6*)
108. **Prior to construction of final design**, Jordan Cove shall specify that the firewater flow test meter is equipped with a transmitter and that a pressure transmitter is installed upstream of the flow transmitter. The flow transmitter and pressure transmitter shall be connected to the DCS and recorded. (*section 4.13.1.6*)
109. **Prior to construction of final design**, Jordan Cove shall file the settlement results during hydrostatic tests of the LNG storage containers and periodically thereafter to verify settlement is as expected and does not exceed the applicable criteria in API 620, API 625, API 653, and ACI 376. (*section 4.13.1.6*)

110. **Prior to construction of final design**, Jordan Cove shall file drawings of the storage tank piping support structure and support of horizontal piping at grade including pump columns, relief valves, pipe penetrations, instrumentation, and appurtenances. (*section 4.13.1.6*)
111. **Prior to construction of final design**, Jordan Cove shall file the structural analysis of the LNG storage tank and outer containment demonstrating they are designed to withstand all loads and combinations. (*section 4.13.1.6*)
112. **Prior to construction of final design**, Jordan Cove shall file an analysis of the structural integrity of the outer containment of the full containment LNG storage tank demonstrating it can withstand the radiant heat from a roof tank top fire or adjacent tank roof fire. (*section 4.13.1.6*)
113. **Prior to construction of final design**, Jordan Cove shall file a projectile analysis to demonstrate that the outer concrete impoundment wall of a full-containment LNG storage tank could withstand projectiles from explosions and high winds. The analysis shall detail the projectile speeds and characteristics and method used to determine penetration or perforation depths. (*section 4.13.1.6*)
114. **Prior to commissioning**, Jordan Cove shall file a detailed schedule for commissioning through equipment startup. The schedule shall include milestones for all procedures and tests to be completed: prior to introduction of hazardous fluids and during commissioning and startup. Jordan Cove shall file documentation certifying that each of these milestones has been completed before authorization to commence the next phase of commissioning and startup will be issued. (*section 4.13.1.6*)
115. **Prior to commissioning**, Jordan Cove shall file detailed plans and procedures for: testing the integrity of onsite mechanical installation; functional tests; introduction of hazardous fluids; operational tests; and placing the equipment into service. (*section 4.13.1.6*)
116. **Prior to commissioning**, Jordan Cove shall file settlement results from the hydrostatic tests of the LNG storage containers and shall file a plan to periodically verify settlement is as expected and does not exceed the applicable criteria set forth in API 620, API 625, API 653, and ACI 376. The program shall specify what actions would be taken after various levels of seismic events. (*section 4.13.1.6*)
117. **Prior to commissioning**, Jordan Cove shall file the operation and maintenance procedures and manuals, as well as safety procedures, hot work procedures and permits, abnormal operating conditions reporting procedures, simultaneous operations procedures, and management of change procedures and forms. (*section 4.13.1.6*)
118. **Prior to commissioning**, Jordan Cove shall file a plan for clean-out, dry-out, purging, and tightness testing. This plan shall address the requirements of the American Gas Association's Purging Principles and Practice, and shall provide justification if not using an inert or non-flammable gas for clean-out, dry-out, purging, and tightness testing. (*section 4.13.1.6*)

119. **Prior to commissioning**, Jordan Cove shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves. (*section 4.13.1.6*)
120. **Prior to commissioning**, Jordan Cove shall file a plan to maintain a detailed training log to demonstrate that operating, maintenance, and emergency response staff have completed the required training. (*section 4.13.1.6*)
121. **Prior to commissioning**, Jordan Cove shall file the procedures for pressure/leak tests which address the requirements of ASME VIII and ASME B31.3. The procedures shall include a line list of pneumatic and hydrostatic test pressures. (*section 4.13.1.6*)
122. **Prior to introduction of hazardous fluids**, Jordan Cove shall complete and document a pre-startup safety review to ensure that installed equipment meets the design and operating intent of the facility. The pre-startup safety review shall include any changes since the last hazard review, operating procedures, and operator training. A copy of the review with a list of recommendations, and actions taken on each recommendation, shall be filed. (*section 4.13.1.6*)
123. **Prior to introduction of hazardous fluids**, Jordan Cove shall complete and document all pertinent tests (Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the DCS and SIS that demonstrates full functionality and operability of the system. (*section 4.13.1.6*)
124. **Prior to introduction of hazardous fluids**, Jordan Cove shall develop and implement an alarm management program to reduce alarm complacency and maximize the effectiveness of operator response to alarms. (*section 4.13.1.6*)
125. **Prior to introduction of hazardous fluids**, Jordan Cove shall complete and document clean agent acceptance tests. (*section 4.13.1.6*)
126. **Prior to introduction of hazardous fluids**, Jordan Cove shall complete and document a firewater pump acceptance test and firewater monitor and hydrant coverage test. The actual coverage area from each monitor and hydrant shall be shown on facility plot plan(s). (*section 4.13.1.6*)
127. **Prior to introduction of hazardous fluids**, Jordan Cove shall complete and document foam system and sprinkler system acceptance tests. (*section 4.13.1.6*)
128. Jordan Cove shall file a request for written authorization from the Director of OEP **prior to unloading or loading the first LNG commissioning cargo**. After production of first LNG, Jordan Cove shall file weekly reports on the commissioning of the proposed systems that detail the progress toward demonstrating the facilities can safely and reliably operate at or near the design production rate. The reports shall include a summary of activities, problems encountered, and remedial actions taken. The weekly reports shall also include the latest commissioning schedule, including projected and actual LNG production by each liquefaction train, LNG storage inventories in each storage tank, and the number of anticipated and actual LNG commissioning cargoes, along with the

associated volumes loaded or unloaded. Further, the weekly reports shall include a status and list of all planned and completed safety and reliability tests, work authorizations, and punch list items. Problems of significant magnitude shall be reported to the FERC within 24 hours. (*section 4.13.1.6*)

129. **Prior to commencement of service**, Jordan Cove shall file a request for written authorization from the Director of OEP. Such authorization will only be granted following a determination by the Coast Guard, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act, the MTSA of 2002, and the Security and Accountability For Every Port Act, that appropriate measures to ensure the safety and security of the facility and the waterway have been put into place by Jordan Cove or other appropriate parties. (*section 4.13.1.6*)
130. **Prior to commencement of service**, Jordan Cove shall notify the FERC staff of any proposed revisions to the security plan and physical security of the plant. (*section 4.13.1.6*)
131. **Prior to commencement of service**, Jordan Cove shall label piping with fluid service and direction of flow in the field, in addition to the pipe labeling requirements of NFPA 59A (2001). (*section 4.13.1.6*)
132. **Prior to commencement of service**, Jordan Cove shall provide plans for any preventative and predictive maintenance program that performs periodic or continuous equipment condition monitoring. (*section 4.13.1.6*)
133. **Prior to commencement of service**, Jordan Cove shall develop procedures for offsite contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Jordan Cove staff. (*section 4.13.1.6*)

**In addition, conditions 134 through 137 shall apply throughout the life of the Jordan Cove LNG Project.**

134. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least an **annual** basis or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, Jordan Cove shall respond to a specific data request including information relating to possible design and operating conditions that may have been imposed by other agencies or organizations. Up-to-date detailed P&IDs reflecting facility modifications and provision of other pertinent information not included in the semi-annual reports described below, including facility events that have taken place since the previously submitted semi-annual report, shall be submitted. (*section 4.13.1.6*)
135. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions; abnormal operating experiences; activities (e.g., ship arrivals, quantity and composition of imported and exported LNG, liquefied and vaporized quantities, boil off/flash gas); and plant modifications, including future plans and progress thereof. Abnormalities shall include, but not be limited to, unloading/loading/shipping problems, potential hazardous conditions from offsite vessels, storage tank stratification or rollover, geysering, storage tank pressure

excursions, cold spots on the storage tank, storage tank vibrations and/or vibrations in associated cryogenic piping, storage tank settlement, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and reasons therefore), relative movement of storage tank inner vessels, hazardous fluids releases, fires involving hazardous fluids and/or from other sources, negative pressure (vacuum) within a storage tank, and higher than predicted boil off rates. Adverse weather conditions and the effect on the facility also shall be reported. Reports shall be submitted **within 45 days after each period ending June 30 and December 31**. In addition to the above items, a section entitled “Significant Plant Modifications Proposed for the Next 12 Months (dates)” shall be included in the semi-annual operational reports. Such information would provide the FERC staff with early notice of anticipated future construction/maintenance at the LNG facilities. (*section 4.13.1.6*)

136. In the event the temperature of any region of the LNG storage container, including any secondary containment and imbedded pipe supports, becomes less than the minimum specified operating temperature for the material, the Commission shall be notified **within 24 hours** and procedures for corrective action shall be specified. (*section 4.13.1.6*)
137. Significant non-scheduled events, including safety-related incidents (e.g., LNG, condensate, refrigerant, or natural gas releases; fires; explosions; mechanical failures; unusual over pressurization; and major injuries) and security-related incidents (e., attempts to enter site, suspicious activities) shall be reported to the FERC staff. In the event that an abnormality is of significant magnitude to threaten public or employee safety, cause significant property damage, or interrupt service, notification shall be made **immediately**, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure. In all instances, notification shall be made to the FERC staff **within 24 hours**. This notification practice shall be incorporated into the liquefaction facility’s emergency plan. Examples of reportable hazardous fluids-related incidents include:
  - a. fire;
  - b. explosion;
  - c. estimated property damage of \$50,000 or more;
  - d. death or personal injury necessitating in-patient hospitalization;
  - e. release of hazardous fluids for 5 minutes or more;
  - f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
  - g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
  - h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes hazardous fluids to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure-limiting or control devices;

- i. a leak in an LNG facility that contains or processes hazardous fluids that constitutes an emergency;
- j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes hazardous fluids;
- l. safety-related incidents from hazardous fluids transportation occurring at or en route to and from the LNG facility; or
- m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property, or the environment, including authority to direct the LNG facility to cease operations. Following the initial company notification, the FERC staff would determine the need for a separate follow-up report or follow up in the upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident. (*section 4.13.1.6*)